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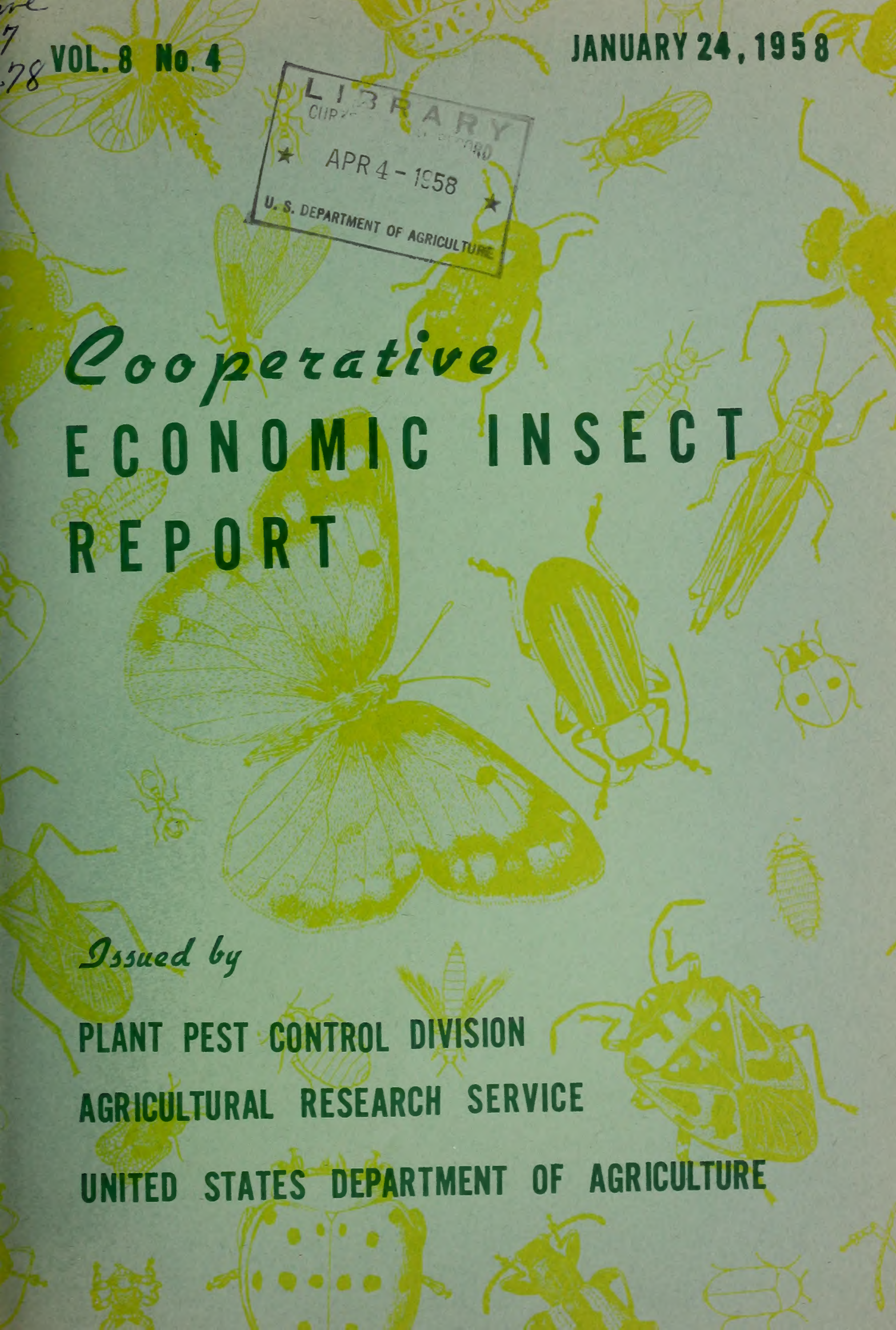

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

PLANT PEST SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Plant Pest Survey Section
Plant Pest Control Division
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Volume 8 January 24, 1958 Number 4

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

MEADOW SPITTLEBUG potential for 1958 low in New Jersey. (p. 53).

CITRUS INSECT and MITE outlook at Lake Alfred, Florida. (p. 53).

Some highlights of IMPORTED FIRE ANT eradication. (p. 56).

New infestations of KHAPRA BEETLE in Arizona, California and Mexico. (p. 55).

SUMMARY OF INSECT CONDITIONS - 1957 - Pennsylvania (p. 57), West Virginia. (p. 59).

Review of ARMYWORM conditions 1955-57. (p. 62).

Extent of SCREW-WORM infestation in Southeast, 1957. (p. 69).

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Reports in this issue are for the week ending January 17 unless otherwise designated.

WEATHER BUREAU 30-DAY OUTLOOK

MID-JANUARY TO MID-FEBRUARY 1958

The Weather Bureau's 30-day outlook for the period mid-January to mid-February calls for temperatures to average below seasonal normals over the eastern half of the nation, except for near normal in New England. Greatest departures are indicated in states bordering the Gulf of Mexico. Over the western half of the country near to above normal temperatures are expected to prevail. Precipitation is predicted to exceed normal in Gulf Coast States and along the Atlantic seaboard with considerable snow from Virginia northward. Subnormal amounts are indicated over the northern half of the country from the Great Lakes westward to the Pacific Northwest. In areas not specified near normal amounts are in prospect.

Weather forecast given here is based on the official 30-day "Resume and Outlook", published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price $4.80 a year, $2.40 a half year.

WEATHER OF THE WEEK ENDING JANUARY 20

A storm in the East the first part of the week and another which moved across the western two-thirds of the country during the weekend accounted for most of the week's precipitation as unusually cold weather persisted in Florida for the third straight week and unseasonably mild temperatures continued in the northern Great Plains for a period of more than 2 months. The storm, over Louisiana and Mississippi at the end of the previous week moved northeastward and combined with another center of low pressure over the Carolinas on the 14th. The new storm continued northeastward to the lower coast of New England where it lingered, while controlling the weather over the Northeast, through the 19th. This storm activity was responsible for moderate to heavy precipitation in the Ohio and lower Mississippi Valleys and Seaboard States, except in southern Florida where totals were less than 0.25 inch. Elsewhere in the area, totals generally exceeded an inch. Snow fell over the Appalachians and along their western slopes as far south as Kentucky and from New Jersey northward. The second storm brought light to moderate precipitation to the Pacific Northwest on the 17th and the Great Plains on the 18th add 19th. One to 5 inches of snow furnished beneficial moisture in the western portions of the central and lower Great Plains where some sections had received no measurable precipitation since the middle of November. Heavy rains up to 3 inches or more fell in the lower Ohio and Mississippi Valleys on the 20th and rain or snow was still falling over the central Mississippi Drainage system on the 21st. A snow cover of 1 to 5 inches now extends from eastern Colorado, northeastern New Mexico and the panhandle sections of Texas and Oklahoma northeastward to the Great Lakes, but only traces cover most of the northern Great Plains where prolonged unseasonably mild temperatures have resulted in the thinest ice cover on lakes and streams in many years--only 7 inches were measured in the Missouri River in North Dakota.

Subfreezing temperatures which extended into Florida on the 19th caused little or no damage to citrus but did damage some tender crops in the Everglades, and the cold retarded growth of other crops, and cold, wet soil was rotting seeds in the ground. Temperatures fell to subzero levels over much of interior New York State and northern New England on the 20th. Burlington, Vt., recorded-13° and several points in the Adirondacks reported-15° to-20°. In north central areas, subzero minima were limited to northern Minnesota and Upper Michigan. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GREENBUG (Toxoptera graminum) - KANSAS - None found in any of the wheat fields examined, Riley, Geary, Morris and Dickinson Counties. (Matthew).

MEADOW SPITTLEBUG (Philaenus leucophthalmus) - NEW JERSEY - The potential for damage to clover and alfalfa in 1958 is low on a statewide basis, averaging 1.1 egg masses per 15 red clover plants per field. However, egg populations in Hunterdon County were higher than in 1956, with an average of 5.6 egg masses per 15 red clover plants per field. (Ins.-Dis. Newsltr., Jan. 7).

ARMY CUTWORM (Chorizagrotis auxiliaris) - KANSAS - None found nor evidence of feeding observed in any fields examined, Riley, Geary, Morris and Dickinson Counties. (Matthew).

CHINCH BUG (Blissus leucopterus) - KANSAS - The fall survey in 44 counties showed 6 counties to be non-economic, with 0-238 bugs per square foot; 6 counties light, 282-483 bugs per square foot; 12 counties moderate, with 523-972 per square foot; 9 counties severe, ranging from 1,028 to 1,651 bugs per square foot; and 11 counties very severe, with 2,066-5,345 per square foot. (Matthew). OKLAHOMA - Completion of the survey in 3 additional northwestern counties showed the average number of bugs in hibernation per square foot of bunch grass to be 254 in Blaine County, 4.8 in Woodward County and 0 in Harper County. (Fed.-State Chinch Bug Survey).

EUROPEAN CHAFER (Amphimallon majalis) - NEW YORK - Grubs found for first time west side of Canandaigua. Complete survey of area will be made in the spring. (PPC, East. Reg., Dec. Rept.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - KANSAS - None found in any alfalfa field examined, Riley, Geary, Morris and Dickinson Counties. (Matthew). OKLAHOMA - Rare to occasional in alfalfa in the panhandle counties; occasional to light in other northwestern counties. One field in Ellis County showed a definite increase in numbers since last fall. (Coppock). Population static in the Stillwater area. (Bieberdorf).

SOYBEAN CYST NEMATODE (Heterodera glycines) - The Division recently released a map which shows that survey was conducted on over 740,000 acres of soybean lands in 31 States during the past year. As of December 31, the pest had been found on 371 properties involving 15,626 acres in 14 counties in 6 States. (PPC). ARKANSAS - Infestations were found on 6 farms involving 116 acres in Mississippi County. These fields were immediately adjoining a previously known infested farm and were found as a result of delimiting inspections. (So. Reg., Dec. Rept.).

PEA LEAF WEEVIL (Sitona lineata) - OREGON - On red clover, 1 adult per 5 sweeps, Forest Grove, Washington County, Jan. 2. Feeding-notches and mating pairs on Austrian winter peas at Sheridan, Yamhill County, Jan. 13. Feeding damage evident and numerous adults, including mating pairs, observed in pea fields at Sheridan, Jan. 15., noon temperature was 50°F. This activity conflicts with previous records which indicate winter hibernation and genuine dormant state. (Prescott, Gray).

FRUIT INSECTS

QUARTERLY CITRUS INSECT AND MITE OUTLOOK, LAKE ALFRED, FLORIDA: Infestations of PURPLE SCALE will increase and be above average this spring. FLORIDA RED SCALE will remain low during the coming quarter. The present outlook is that PURPLE SCALE infestations will be high this winter and spring, but lower than indicated if rainfall is abundant. CITRUS RUST MITE infestations will decline, but will be considerably above average through the quarter. TEXAS CITRUS MITE will be more abundant than in previous years, for the same period, and

SIX-SPOTTED MITES will be abundant and cause serious injury to new growth in many groves. (Pratt).

CITRUS BLACKFLY (Aleurocanthus woglumi) - TEXAS - A very limited number of inspections were made during December. Inspection of 33 trees on 4 previously known infested properties in Laredo, Webb County, Texas, showed no evidence of the presence of this pest. (So. Reg., Dec. Rept.). MEXICO - Light to medium infestations were found on 566 trees on 25 properties in Tamaulipas and Nuevo Leon in December. Newly infested groves were immediately sprayed. Infestations in the biological control zone of northeastern area continue to be generally controlled by parasites. (Mex. Reg., Dec. Rept.).

CITRUS WHITEFLY (Dialeurodes citri) - CALIFORNIA - Continuing survey in Sacramento shows 7 new infested blocks, representing first established live find since 1938 in Sacramento County. (Cal. Coop. Rept.).

MEXICAN FRUIT FLY (Anastrepha ludens) - MEXICO - Trapping continued at Ensenada, Tecate, Tijuana and Mexicali in Baja California, and at San Luis, Sonora. A total of 4,839 trap inspections in 1,318 traps were made on 566 properties. Results were negative. (PPC, Mex. Reg., Dec. Rept.). TEXAS - The first fly of the season in the lower Rio Grande Valley was trapped in December. The date of this catch is about average for past seasons but is about a month later than the first catch for the 1956 season. No additional flies had been trapped by December 31. (So. Reg., Dec. Rept.). Trapping in CALIFORNIA and ARIZONA during December was negative. (PPC, West Reg.).

TRUCK CROP INSECTS

ARTICHOKE PLUME MOTH (Platyptilia carduidactyla) - CALIFORNIA - Light infestations reported from coastal Santa Barbara County; light to medium infestations from Watsonville, Santa Cruz County. (Cal. Coop. Rept.).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Infestation found on 200,000 acres of desert land west of cultivated acreages, threatening susceptible crops. Tentative control program developed for 25,000 acres. (Cal. Coop. Rept.).

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - LOUISIANA - Tensas Parish was found infested for the first time with the discovery of weevils on 4 properties in St. Joseph. The weevils were found on unharvested sweetpotatoes left in the fields because of severe damage. (So. Reg., Dec. Rept.).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Gin trash sampling operations were concluded on December 6 for the season. Boll examinations and lint cleaner inspections were continued. No pink bollworm was found in collections submitted from Santa Cruz and Pima Counties. NEW MEXICO - In Chaves and Eddy Counties, 21 lint cleaner inspections were made with 29 and 30 pink bollworms found in each county respectively. (PPC, West. Reg., Dec. Rept.). MEXICO - In eastern area, 1,810 bushels of gin trash were inspected in Baja California and 30 bushels in San Luis, Sonora, with negative results. In Hermosillo, Sonora area, 18 lint cleaner inspections were made at 6 gins with negative results. In Culiacan, Sinaloa, 90 bushels of gin trash were inspected with negative results. (PPC, Mex. Reg., Dec. Rept.). OKLAHOMA - Inspections of 18 lint cleaner and 21 gin trash stands in 11 southern counties recovered 26 larvae in Kiowa, Tillman, Cotton, Love and Bryan Counties (all border the Red River), Dec. 30, 1957, to Jan. 14, 1958. (Fed.-State PBW Comm.). ARKANSAS - The second pink bollworm of the season was found in trash from the Emmett gin, involving two farms, one in Hempstead County and one in Nevada County. The field involved was not pinpointed. This is a newly infested area and is several miles from any known infested area.

FLORIDA - The Lake Alfred Laboratory identified 7 pink bollworm larvae in the collection from Plantation Key. MISSISSIPPI - Approximately 2,500 bushels of gin trash were inspected, mostly in the delta counties, with negative results. (PPC, So. Reg.)

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

GYPSY MOTH (Porthetria dispar) - Scouting of nurseries completed on Long Island NEW YORK during December. One egg mass found in peripheral area of nursery in vicinity of Rockville Centre, Nassau County. Infestation about 5 miles west of 1957 sprayed area. Intensive scouting in vicinity of 1957 positive trap sites in NEW JERSEY and PENNSYLVANIA negative. (PPC, East. Reg., Dec. Rept.).

A LEAF MINER - OREGON - Has infested 100 percent of a large nursery planting of salal at Salem, Marion and Polk Counties. (Bock).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - TEXAS - Caused defoliation of natural loblolly reproduction in eastern Panola County and a 40-acre pine plantation in San Augustine County. (Young).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TEXAS - Found in widely scattered trees in western Hardin County. Many of trees appear to be recently attacked. (Young).

A TIP MOTH - TEXAS - Infestations continue to be extensive throughout east Texas. (Young).

TURPENTINE BEETLES (Dendroctonus spp.) - TEXAS - Heavy concentrations reported in stands cut during past year, Sabine, San Augustine and Shelby Counties. (Young).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE GRUBS (Hypoderma spp.) - UTAH - Appearing in backs of cattle, Box Elder and Utah Counties. (Knowlton). OKLAHOMA - Recent counts at Fort Reno Station averaged 8 grubs per animal for 32 weaning calves, 10.7 for 21 yearling heifers, and 6.7 for 18 head of 2 year old cows. (Allison).

CATTLE LICE - TEXAS - Reported light on livestock, Hall County. (Hooser). UTAH - Seriously infesting untreated herds in several counties. (Knowlton).

HORSE BOT FLY (Gasterophilus spp.) - UTAH - Larvae infesting horses in northern areas. (Knowlton).

STORED-PRODUCT INSECTS

FLOUR BEETLES - UTAH - A recent problem in many homes, Salt Lake County. (Knowlton).

KHAPRA BEETLE (Trogoderma granarium) - ARIZONA - Six infestations, 2 each at Buckeye and Phoenix in Maricopa County, and one each at Parker and Vicksburg in Yuma County, were reported during December. CALIFORNIA - Three new infestations, two in Kern County and one in Imperial County, were reported during December. No infestations were found in NEW MEXICO. Inspections in COLORADO, IDAHO, OREGON and WASHINGTON were negative. (PPC, West. Reg., Dec. Rept.). MEXICO - Three new properties were reported in December from Mexicali district. Volume to be treated involved 1,611,167 cubic feet. Inspections during December at Mexicali, Tecate, and Tijuana, Baja California and San Luis Rio Colorado, Hermosillo and Nogales, Sonora, totaled 66. (PPC, Mex. Reg.).

GRAIN PESTS - OREGON - Inspection of an elevator-feed mill at Monroe, Benton County, disclosed small numbers of the DEPRESSED FLOUR BEETLE (*Palorus subdepressus*), high populations of the CADELLE (*Tenebroides mauritanicus*) and the GRAIN MITE (*Acarus siro*) in association with predaceous mites (*Tydeus interruptus*). (Krantz).

MISCELLANEOUS INSECTS

BOXELDER BUG (*Leptocoris trivittatus*) - UTAH - Invading a number of homes at Spanish Fork, Utah County. (Knowlton).

CLUSTER FLY (*Pollenia rudis*) - UTAH - Extremely abundant in public building at Spanish Fork. (Knowlton).

FIRE ANT (*Solenopsis geminata*) - TEXAS - Reported from Burleson, Brazos, Brazoria, Waller, Montgomery, Harris, Robertson, Lavaca, Liberty, Bexar, Grimes, Wharton and Hidalgo Counties. (Turney).

IMPORTED FIRE ANT (*Solenopsis saevissima richteri*) - New county records during December included Calhoun, Lamar, Limestone and Talladega Counties, ALABAMA: Calhoun, Gulf and Marion Counties, FLORIDA: and Bienville Parish, LOUISIANA. Surveys were continued in most of the States in the Southern Region. In ALABAMA particular emphasis was placed on delimiting infestations in the periphery counties. Survey of Decatur County, GEORGIA, was completed, showing 107,133 acres infested, of which 22,240 acres have been treated by plane and 1,568 acres by ground equipment. The army reservation at Ft. Benning, Georgia, was effectively surveyed by the use of two helicopters furnished by the Army. In LOUISIANA, about 285,000 acres were surveyed in 29 parishes and about 6,052 acres treated in 16 parishes. Most of the larger nurseries in ant-infested areas of Louisiana have applied insecticides. The Atchafalaya River Levee Board treated 51 miles of levees, which amounted to 3,570 acres. Survey in MISSISSIPPI revealed a large infestation in Madison County, which is distantly removed from previously reported infested areas. (So. Reg., Dec. Rept.). Additional new county records are Washington County, FLORIDA: Madison and Tangipahoa Parishes, LOUISIANA: Berkeley and Marion Counties, SOUTH CAROLINA: and Muscogee, Chattachoochee, Marion and Peach Counties, GEORGIA. (PPC).

SOUTHERN LYCTUS BEETLE (*Lyctus planicollis*) - CALIFORNIA - Severely damaging stored hardwood in Eureka, Humboldt County. (Cal. Coop. Rept.).

LIGHT TRAPS

	Hel. zea	Pseud. unip	Prot. sexta	Laph. frug.	Agrot. yps.	Perid. marg.	Felt. subter	Prod. ornith.
TEXAS								
Beaumont 11/16-30		1			1			
Brownsville 11/15/57-1/11/58	13	337	1	1,160	65	69	197	17
SOUTH CAROLINA (County)								
Charleston 1/13-19		2				1		1

SUMMARY OF INSECT CONDITIONS - 1957

PENNSYLVANIA

Compiled by J. O. Pepper

Highlights: SARATOGA SPITTLEBUG (*Aphrophora saratogensis*) increased to outbreak proportions causing considerable injury in Christmas tree plantations in western Pennsylvania. ALFALFA WEEVIL (*Hypera postica*) spread to 10 additional counties and in much of the area untreated alfalfa fields were severely damaged. An APHID (*Hyalopteroides dactylidis*) became extremely abundant on orchard grass causing stunting and yellowing in south central areas. Migrations of large numbers of EASTERN TENT CATERPILLAR (*Malacosoma americanum*) caused much concern in the southern part of the State.

Cereal and Forage Insects: *Alfalfa* - ALFALFA WEEVIL (*Hypera postica*) is now present in 35 counties of the State extending from the northeast corner diagonally across the State to Somerset County. Infestations in many sections were heavy and in unsprayed fields the first cutting was practically lost. PEA APHID (*Macrosiphum pisi*) on alfalfa began April 11 and increased considerably by April 30, when parasites and predators reduced the population rapidly. Except for a few small areas, the pea aphid was not a problem on alfalfa. SPITTLEBUGS (*Philaenus* spp.) began hatching in early April and by mid-May unsprayed fields showed heavy infestations. Adults began to appear on June 6. POTATO LEAFHOPPER (*Empoasca fabae*) adults were first noticed in late May and by June 12 were quite general and nymphs were present. During July and August, populations became very heavy and considerable damage was done. In one demonstration the sprayed area produced over 1000 pounds more dry hay per acre than the check area. *Orchard Grass* - An APHID (*Hyalopteroides dactylidis*) became exceedingly abundant on orchard grass in late April and early May causing stunting and yellowing in Fulton and other south central counties. *Mixed Hay* - TARNISHED PLANT BUG (*Lygus lineolaris*) began to appear in early May and by late June large numbers were collected in sweepings from hay fields. *Clover* - The LESSER CLOVER LEAF WEEVIL (*Hypera nigrirostris*) began to do some injury in mid-May but decreased later. *Corn* - EUROPEAN CORN BORER (*Pyrausta nubilalis*) adults first appeared May 22 and eggs were reported on June 6. The first generation began to pupate about mid-July. Very dry conditions were unfavorable for the second generation. CORN BORERS were moderately abundant. CORN FLEA BEETLE (*Chaetocnema pulicaria*) was very abundant generally with the heaviest populations in the southeastern part of the State. ARMYWORMS (*Pseudaletia unipuncta*) caused some injury to corn in mid-June in the southeastern area and in a few instances spraying was necessary. Outbreaks were spotted. CHINCH BUGS (*Blissus leucopterus*) began to appear in July in the southeastern and south central sections and caused severe damage in some fields. CORN LEAF APHID (*Rhopalosiphum maidis*) first appeared in late June becoming very abundant in southern half of the State by late July. The GARDEN SYMPHYLID (*Scutigerella immaculata*) destroyed 1 1/2 acres of corn during mid-May in the central part of the State. Other insects on corn reported as causing injury were CORN EARWORM (*Heliothis zea*), CUTWORMS, SOD WEBWORMS (*Crambus* spp.), and SOUTHERN CORN ROOTWORM (*Diabrotica undecimpunctata howardi*). HESSIAN FLY (*Phytophaga destructor*) population was low. A casual survey in the southwestern part of the State showed about 7 percent spring infestation. The infestation this fall should be low because of the very dry summer.

Fruit Insects: RED-BANDED LEAF ROLLER (*Argyrotaenia velutinana*) began hatching May 1 and by late May was nearly completed. Larvae of the second generation were found on foliage and fruit June 20. Close observation and adequate control measures were necessary to prevent damage. EUROPEAN RED MITE (*Panonychus ulmi*) eggs began hatching May 1 and by May 15 nymphs and adults were plentiful, becoming very abundant by mid-June. Infestations of the TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) began to cause injury in late May. PERIODICAL CICADA (*Magicicada septendecim*) (BROOD XIV) emerged in mid-May and by mid-June had caused very severe injury to fruit trees in the counties in which they are recorded. Juniata County, in addition to these, also had very severe damage in the fruit section. CODLING MOTH (*Carpocapsa pomonella*) began to emerge in mid-May, but cool nights delayed egg laying and emergence. On June 14 adults of the first generation were still emerging, while the larvae of the first laid eggs became mature. APPLE MAGGOT (*Rhagoletis pomonella*) in unsprayed orchards was very heavy. SCALE, mainly SAN JOSE (*Aspidiotus perniciosus*), is still present in many orchards and in a few is quite heavy.

Forest, Ornamental and Shade Tree Insects: SARATOGA SPITTLEBUG (*Aphrophora saratogensis*) caused considerable damage to Scotch and red pine in many Christmas tree plantations in western Pennsylvania. Control measures in late June and early July were necessary. Nymphs were easily found on a variety of vegetation in the plantations, particularly wild carrot and wild blackberry. ZIMMERMAN PINE MOTH (*Dioryctria zimmermani*) larvae were very abundant in June infesting new terminals and laterals at the tops of the trees. Many of the infested twigs broke at the exit hole and the others withered and died. The problem was quite severe on Scotch pine and red pine throughout the State. PINE CHAFER (*Anomala oblivia*) was again found attacking the needles of Scotch pine in plantations in a number of areas. In one large plantation a heavy population was found throughout and control measures were necessary. APHIDS of the *Cinara* group were quite numerous. *Cinara watsoni* was present on the new growth in nursery beds, as well as in the plantations. Varying infestations of PINE SPITTLEBUG (*Aphrophora parallela*) were encountered over the State. One ten-acre plantation in the northwest had a very heavy infestation that caused considerable damage. NANTUCKET PINE MOTH (*Rhyacionia frustrana*) was extremely heavy in some Scotch pine plantations in southern areas. Control of the second generation was necessary to reduce damage. The first generation was nearly all emerged by May 10 and the second generation had emerged by July 10. PINE BARK APHID (*Pineus strobi*) appeared to be more abundant in 1957, as numerous infestations were reported. A heavy infestation in a seedling bed caused considerable damage. PINE TORTOISE SCALE (*Toumeyella numismaticum*) was reported from many sections of the State, causing discoloration on Christmas trees. Most infestations were spotted in a plantation. Heavy infestations in native *Pinus virginiana* occurred in the mountainous sections in the western area and, in some instances, control was effective. WHITE PINE WEEVIL (*Pissodes strobi*) attacked Scotch pine quite extensively in northwestern sections of the State and infestations of 6 to 7 percent were common. EUROPEAN PINE SHOOT MOTH (*Rhyacionia buoliana*) is definitely influencing the reduction in plantings of red pine. In mixed Scotch and red pine plantations, the Scotch pine is also attacked to a considerable extent. Emergence of the moth this year, which was completed around June 20, was very uniform and timed control measures were quite successful. EASTERN TENT CATERPILLAR (*Malacosoma americanum*) was very abundant in southern counties and moderately so in the northern part of the State. Eggs were hatched previous to April 17 and by May 15 migrations of the mature larvae resulted in much concern by homeowners. On June 19 moths were flying to lights in large numbers and on June 28 the first eggs were noticed. PERIODICAL CICADA was quite heavy where expected. Lackawanna and Juniata Counties, heretofore not listed for this brood, also suffered considerable damage. BIRCH LEAF MINER (*Fenusa pusilla*) appeared to be generally more abundant than usual. A PIT-MAKING SCALE (*Asterolecanium minus*) killed many twigs on pin oak in several locations.

Vegetable Insects: Early in the season FLEA BEETLES were abundant on cabbage and radish. During mid-May large numbers of the POTATO FLEA BEETLE (*Epitrix cucumeris*) were present on tomatoes and any potatoes that were up. During the first week of June spotted infestations of a CABBAGE FLEA BEETLE were reported from the southeastern part of the State. TARNISHED PLANT BUG (*Lygus lineolaris*), during June and July, were common on potatoes, and very abundant on potatoes and tomatoes in the northwestern part of the State. CABBAGE CURCULIO (*Ceutorhynchus rapae*) was much more abundant than usual. In late May larvae were injuring transplants in southeastern sections, and during late June and early July an average of 20 adults per plant was found in some fields in the northwest. TOMATO HORNWORM (*Protoparce quinquemaculata*) was fairly common in tomato fields and the TOMATO RUSSET MITE (*Vasates lycopersici*) caused spotted damage in some fields and was quite general in a few. CABBAGE MAGGOT (*Hylemya brassicae*) was moderately severe and IMPORTED CABBAGEWORM (*Pieris rapae*) caused real injury where it was not controlled. The STALK BORER (*Papaipema nebris*) was reported several times in June and July injuring tomatoes. The GARDEN FLEAHOPPER (*Halticus bracteatus*) caused quite extensive injury on tomatoes during July in Franklin County.

SUMMARY OF INSECT CONDITIONS - 1957

WEST VIRGINIA

Prepared by C. K. Dorsey

Highlights: ALFALFA WEEVIL infestations have now spread to include 13 counties most of which are located along the entire eastern border of the State. Damage to untreated alfalfa was severe in the older infestations, particularly to the first crop. EUROPEAN CORN BORER infestations were larger than last year and caused serious damage to field corn in several south and central counties. JAPANESE BEETLE moved rapidly into new areas in the southeastern and central parts of the State and caused considerable damage in these localities. PINE TORTOISE SCALE which had built up to threatening proportions on pulp producing Virginia pines in eastern West Virginia was spectacularly controlled by predators. EUROPEAN PINE SHOOT MOTH caused serious damage to young red and Scotch pine in forest and Christmas tree plantations over the State.

Cereal and Forage Insects: EUROPEAN CORN BORER (*Pyrausta nubilalis*) was more prevalent this year than last. In 15 principal corn producing counties 107 fields were surveyed; the average number of borers per 100 plants was 40. ALFALFA WEEVIL (*Hypera postica*) extended its range into 7 additional counties since the 1956 survey. This pest caused heavy damage to alfalfa in Jefferson, Berkeley and Hardy Counties. Several thousand larvae were confined in a rearing cage to complete development; there was no evidence of pre-pupal or pupal parasite emergence. SPOTTED ALFALFA APHID (*Therioaphis maculata*) is still confined to Monroe and Greenbrier Counties. The populations were very low, however, a few additional fields were infested this year. PEA APHID (*Macrosiphum pisi*) started an early season buildup in several counties, but did not become economically important. MEADOW SPITTLEBUG (*Philaenus leucophthalmus*) populations in general were smaller than in 1956; in limited areas they were numerous (Monroe and Greenbrier Counties). CORN LEAF APHID (*Rhopalosiphum maidis*) was more prevalent than usual particularly in south and central counties. CORN SAP BEETLE (*Carpophilus* species) was moderately abundant and caused damage in Greenbrier and Randolph Counties. CORN EARWORM (*Heliothis zea*) was less abundant than last year, but caused rather extensive damage to corn in several counties. SOUTHERN CORN ROOTWORM (*Diabrotica undecimpunctata howardi*) was prevalent and caused appreciable damage to corn in at least 12 counties.

Fruit Insects: CODLING MOTH (*Carpocapsa pomonella*) caused damage in some areas, but in the principal apple producing sections damage was light. EUROPEAN RED MITE (*Panonychus ulmi*) was numerous and injurious early in the season in the eastern panhandle. RED-BANDED LEAFROLLER (*Argyrotaenia velutinana*) was troublesome in some orchards in Jefferson and Berkeley Counties. APPLE APHID (*Aphis pomi*) was prevalent in the eastern panhandle, but fed mainly on apple sprouts. EASTERN TENT CATERPILLAR (*Malacosoma americanum*), in migrating, seriously damaged a strawberry field in Randolph County.

Truck Crop Insects: PURPLE-BACKED CABBAGEWORM (*Evergestis pallidata*) was numerous and destructive in several counties. In Monongalia County about 30 percent of a 5-acre cabbage field was destroyed. CABBAGE LOOPER (*Trichoplusia ni*) and IMPORTED CABBAGEWORM (*Pieris rapae*) were present in usual numbers; localized areas suffered heavy damage. MEXICAN BEAN BEETLE (*Epilachna varivestis*) infestations were light to medium, statewide. COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) observed in at least 25 counties caused light to moderate damage. POTATO LEAFHOPPER (*Empoasca fabae*)-moderate to heavy populations were observed statewide; heaviest damage was in Randolph County. POTATO FLEA BEETLE (*Epitrix cucumeris*) was numerous in several counties and fed heavily on potato foliage. HORNWORMS (*Protoparce* spp.) and TOMATO FRUITWORM (*Heliothis zea*) were present in usual numbers and caused damage to tomato plants in localized areas. CABBAGE MAGGOT (*Hylemya brassicae*) was reported to be troublesome in 15 counties in home gardens. CORN EARWORM (*Heliothis zea*) caused considerable damage to early sweetcorn in most areas of the State.

Forest, Ornamental and Shade Tree Insects: EASTERN TENT CATERPILLAR (*Malacosoma americanum*) statewide infestations were heavy during the year; forest, shade and orchard trees were defoliated when attacked. PERIODICAL CICADA (*Magicicada septendecim*) (Brood XIV) had a limited emergence in 1957; it was heavier in the southwestern counties and much lighter in the eastern panhandle region. FALL CANKERWORM (*Alsophila pometaria*) was numerous in areas of the eastern panhandle where it fed destructively on American elm. LOCUST LEAF MINER (*Chalepus dorsalis*) occurred statewide again this year with varying intensities; black locust in some areas was very severely damaged. FALL WEBWORM (*Hyphantria cunea*) infestations were very light. JAPANESE BEETLE (*Popillia japonica*) was numerous in northern, eastern and central West Virginia where it fed heavily on apple, persimmon and sycamore. A SAWFLY (*Neodiprion* sp.) damaged pitch pines in Nicholas County and red pines in Raleigh County. PINE NEEDLE SCALE (*Phenacapsis pinifoliae*) was observed in several counties, but was especially heavy on white pine in Pocahontas County. Several scale insects were observed causing damge in localized areas: EUROPEAN FRUIT LECANIUM (*Lecanium corni*) on maple and tuliptrees; AZALEA BARK SCALE (*Eriococcus azaleae*) on azalea; ROSE SCALE (*Aulacaspis rosae*) on rose and wild raspberry; OYSTERSHELL SCALE (*Lepidosaphes ulmi*) on lilac. WHITE PINE APHID (*Cinara strobi*) was found statewide in light to moderate infestations on young white and red pine. A SAWFLY (*Cephalcia marginata*) was present in rather heavy concentrations in Tucker County where it fed destructively on blue spruce. PINE SPITTLEBUG (*Aphrophora parallela*) infestations were light to medium in Randolph, Mineral, Monongalia, Hardy and Marshall Counties. A mite (unidentified) fed heavily upon and severely damaged plantation hemlock in a nursery in Tyler County. ASIATIC OAK WEEVIL (*Cyrtepistomus castaneus*) and a GRAY-SIDED OAK WEEVIL (*Pandeleteius hilaris*) were collected frequently on red and white oaks in southwestern counties. CATALPA SPHINX (*Ceratomia catalpae*) was reported present in several areas with heavy feeding in Hardy County. GYPSY MOTH (*Porthetria dispar*) trap collections in 30 counties were negative. A statewide survey of forest tree nurseries and Christmas tree plantings of mainly red, Scotch and white pine was conducted. EUROPEAN PINE SHOOT MOTH (*Rhyacionia buoliana*) infestations were prevalent, varying from medium to heavy and causing serious injury. NANTUCKET PINE MOTH (*R. frustrana*) infestations were not so widespread, but did damage pines. *R. rigidana* was scarce. WHITE PINE WEEVIL (*Pissodes strobi*) was found mainly in eastern and northeastern counties; caused severe injury to pines in 3 plantations. LOCUST BORER (*Megacyllene robiniae*) caused heavy damage to black locust over the entire State. BAGWORM (*Thyridopteryx ephemeraeformis*) caused some damage to various ornamentals, but was much less numerous than last year. BOXWOOD LEAF MINER (Monarthropalpus buxi) and DOGWOOD TWIG BORER (Oberea tripunctata) caused damage in several localized areas. Several species of acorn weevils (Curculio spp.) destroy a large part of the acorn crop each year. PINE TORTOISE SCALE (Toumeyella numismaticum) was present on Virginia pine in the eastern part of the State in epidemic numbers; small pines were being killed and pines up to 40 feet high were severely damaged; natural enemies eradicated them in May.

Man and Animal Insects: COMMON CATTLE GRUB (Hypoderma lineatum) was more numerous in 1957 and caused much damage to cattle. AMERICAN DOG TICK (Dermacentor variablis) populations were heavy especially in Marion and Mineral Counties. The DOG FLEA (Ctenocephalides canis) was prevalent statewide, infestations being reported on dogs, cats and man. Veterinarians,in different areas of the state, reported localized infestations of DOG BITING LOUSE (Trichodectes canis), CATTLE BITING LOUSE (Bovicola bovis), HORSE BITING LOUSE (Bovicola equi) and HOG LOUSE (Haematopinus suis). HOUSE FLY (Musca domestica) was troublesome in many areas late in the season. SHEEP KED (Melophagus ovinus), BLACK BLOW FLY (Phormia regina) and a GREEN BOTTLE FLY (Phaenicia sericata) were reported by county agents as being troublesome in some of the south, central and southeastern counties. HORSE FLY (Tabanus spp.) and DEER FLY (Chrysops spp.) populations were heavy and troublesome in at least 25 counties. BLACK WIDOW SPIDER (Latrodectus mactans) was especially numerous in Monongalia and Kanawha Counties.

Stored-Product and Household Insects: The results of the KHAPRA BEETLE (Trogoderma granarium) survey were negative. A statewide survey of grain mills and feed stores produced the commonly occurring stored grain pests previously reported.

Other Insects: ASIATIC GARDEN BEETLE (Autoserica castanea) was a pest of chrysanthemums in Kanawha County. OLD HOUSE BORER (Hylotrupes bajulus) was reported to have damaged dwellings in several areas. TERMITE and CARPENTER ANT activity was about as usual. CLOVER MITE (Bryobia praetiosa) was troublesome in homes in several counties, particularly Brooke and Fayette. MILLIPEDE migrations in Upshur County caused residents trouble by entering houses, by clogging well pumps and contaminating springs.

ARMYWORM CONDITIONS 1955-1957

Prepared in Plant Pest Survey Section

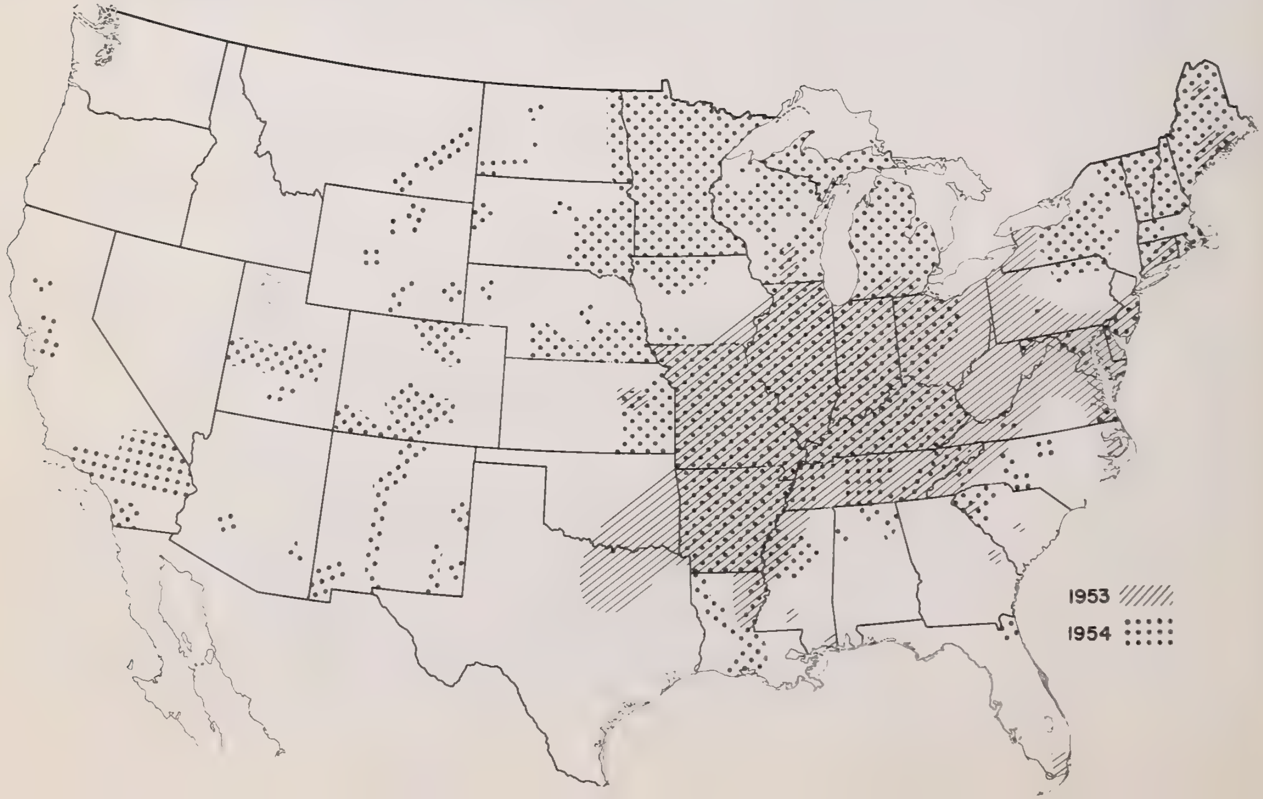
Following the severe and extensive armyworm (Pseudaletia unipuncta) outbreaks of 1953-54 (see map below), considerable interest developed in the biology and habits of the pest. One of the major approaches to this study has been through the use of light traps. In many instances the work has been made possible with traps supplied and installed by Agricultural Engineering Research Division, Agricultural Research Service. Various State agencies, using these traps as well as their own, and Entomology Research Division stations have conducted the trapping, identification and reporting from many areas.

The maps on the following pages are intended to show only the general trends in armyworm moth and larval populations during the more active seasons (March through August) of the past three years. The limits of this summary do not imply that the pest is active only during this period. In some of the Southern States moths were trapped the year round and larval infestations were reported in Broward County, Florida, in January 1955 and in northern Louisiana in February 1956.

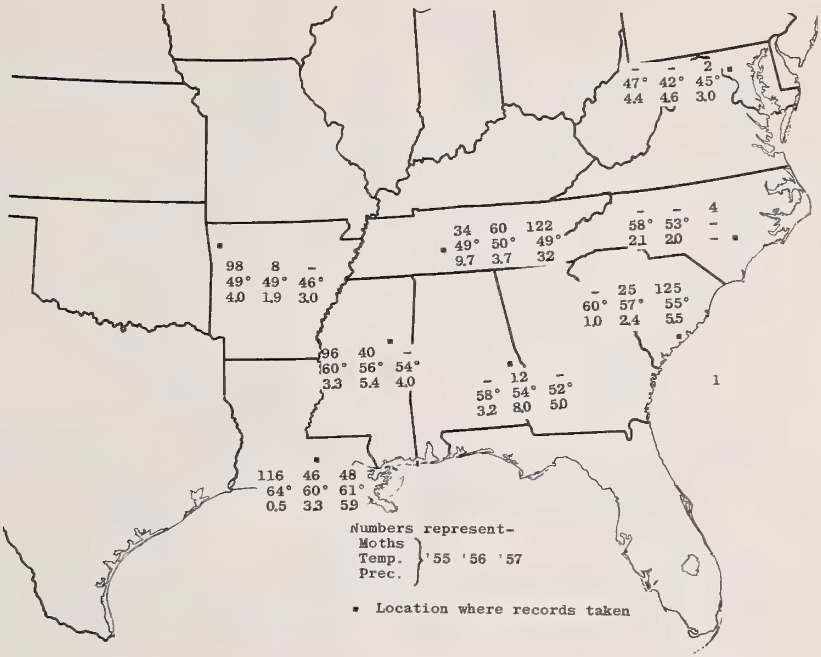
The incompleteness of such a compilation is evident. On some occasions traps were not operated, catches were lost or not reported. Reports on larval infestations are also incomplete.

On maps 1, 3, 5, 7, 9, 11, the total number of moths taken at a specific station during one month's time has been listed together with the average temperature and precipitation for that station during the same period. Weather records are from U.S. Weather Bureau.

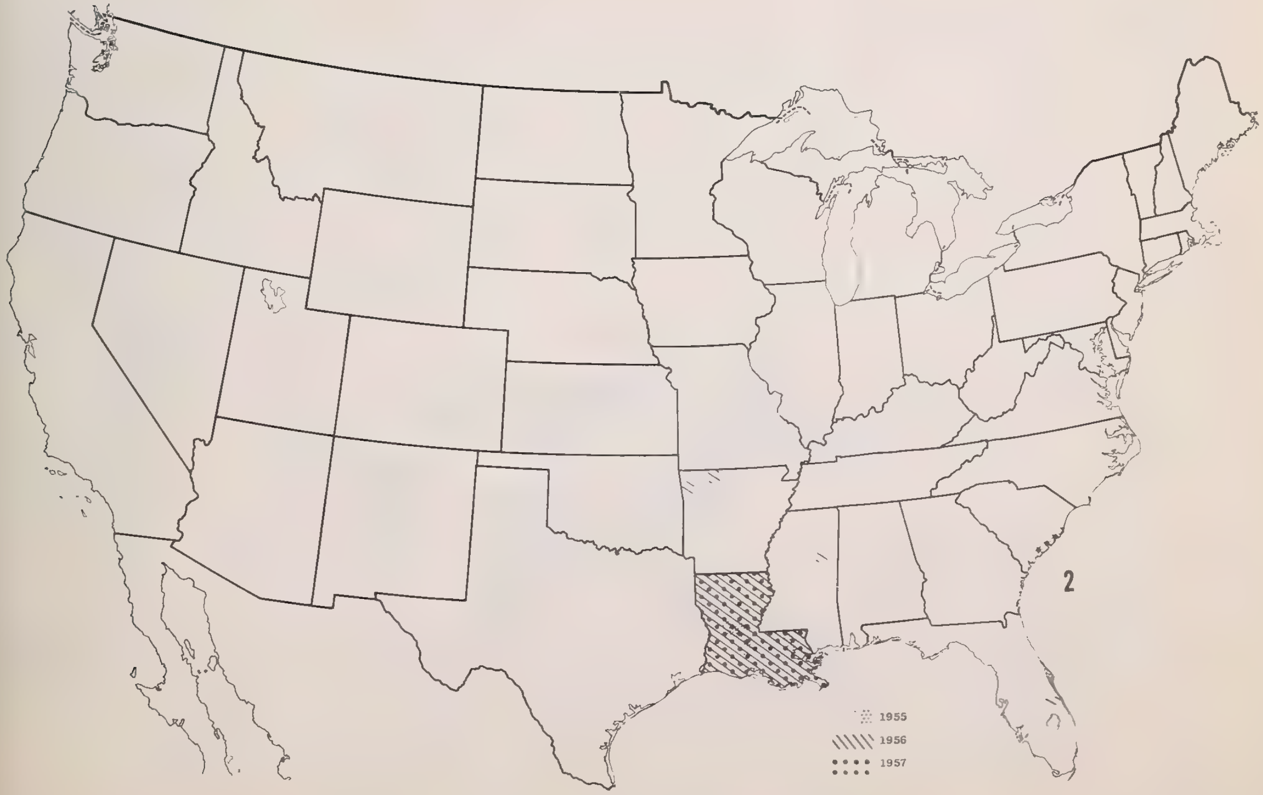
General Area of Armyworm Infestations 1953-54



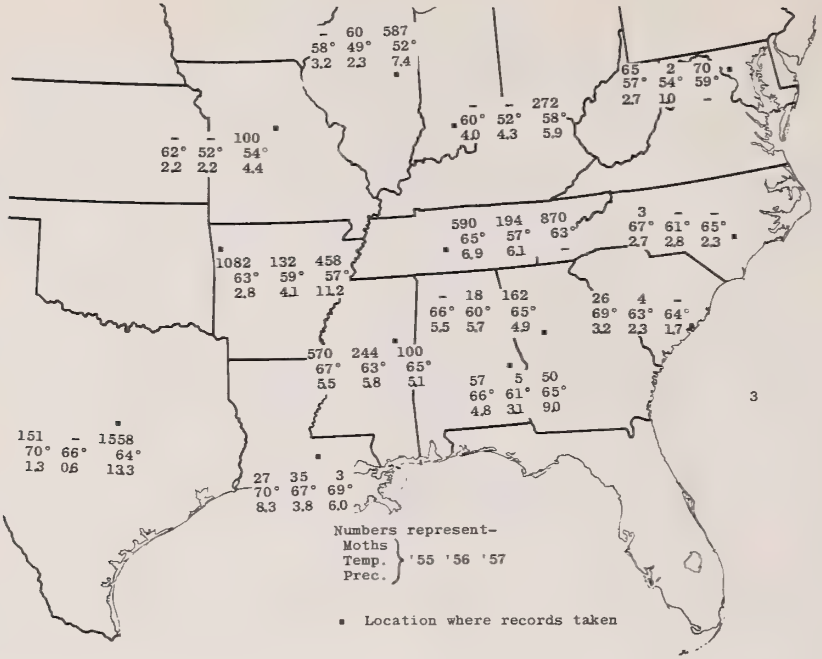
Armyworm Moth Catches, Temperature and Precipitation - March 1955-57



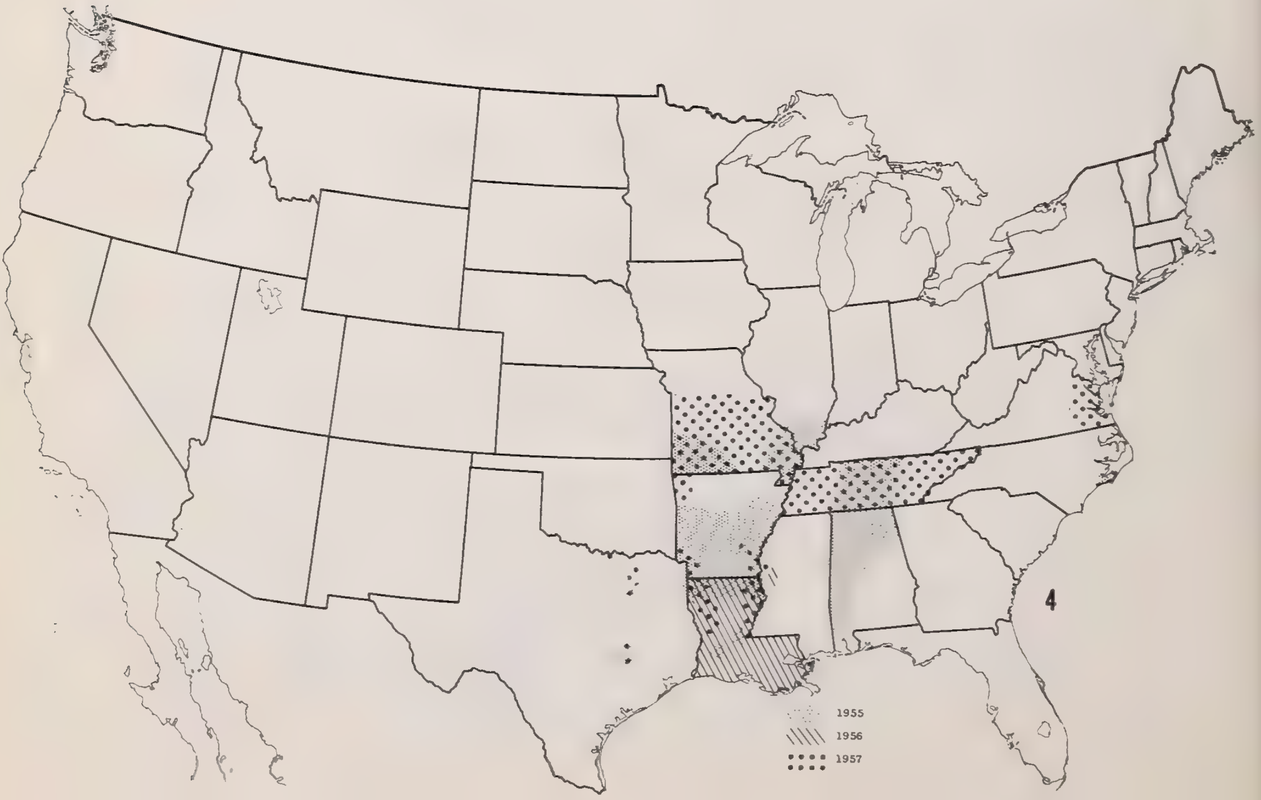
Armyworm Infestations - March 1955-57



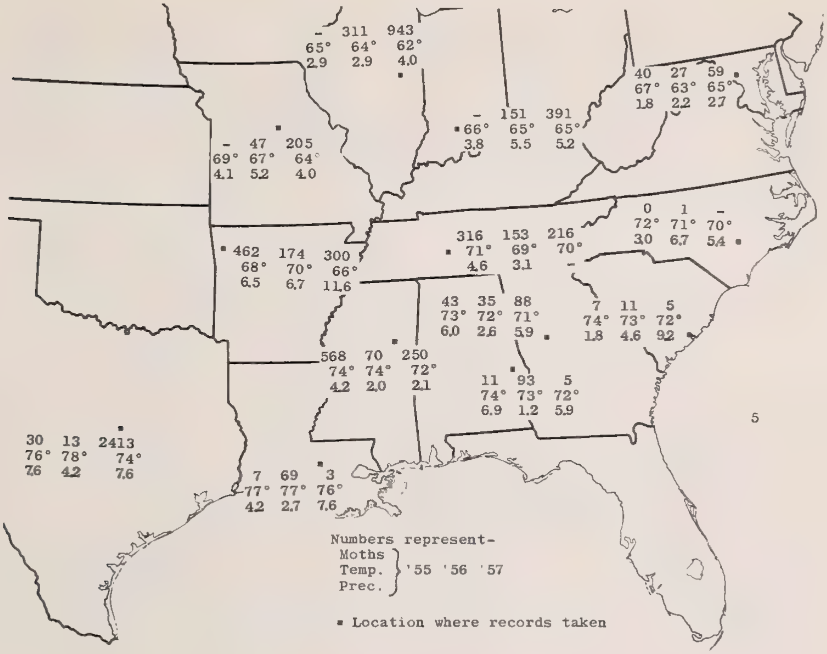
Armyworm Moth Catches, Temperature and Precipitation - April 1955-57



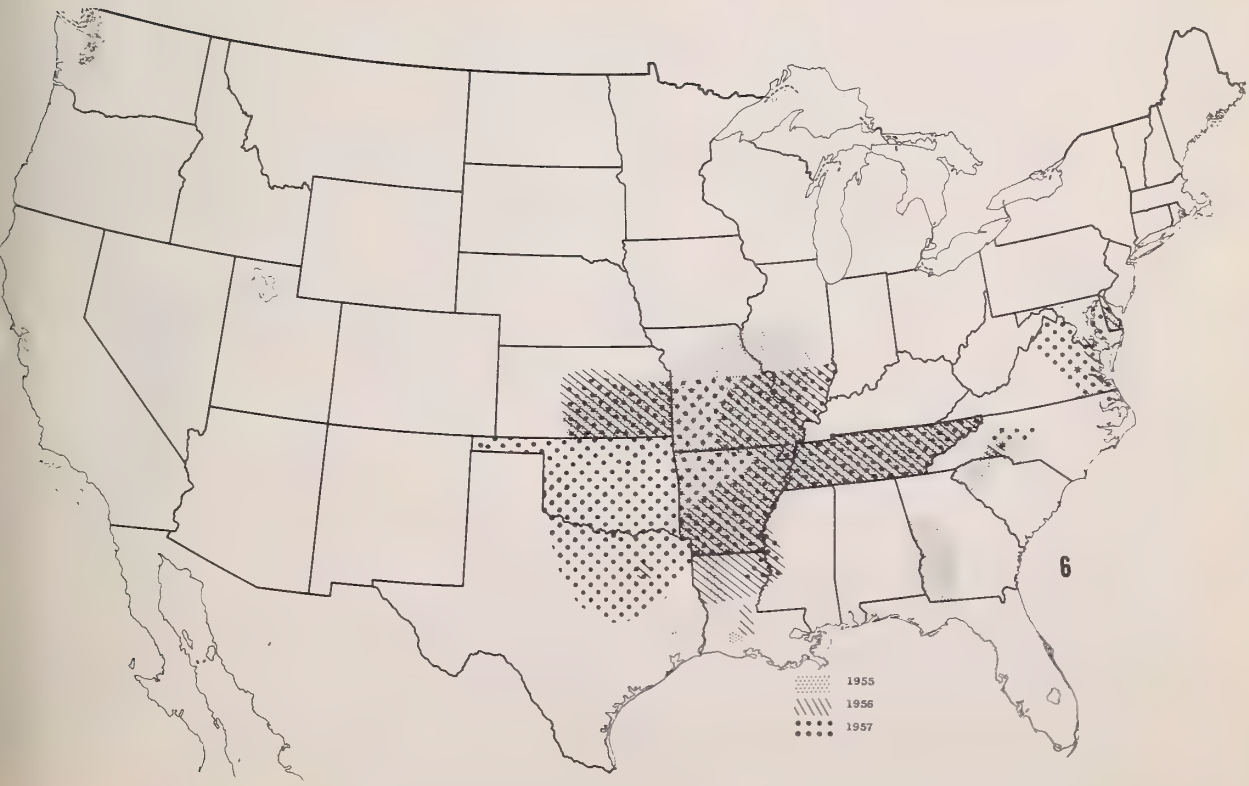
Armyworm Infestations - April 1955-57



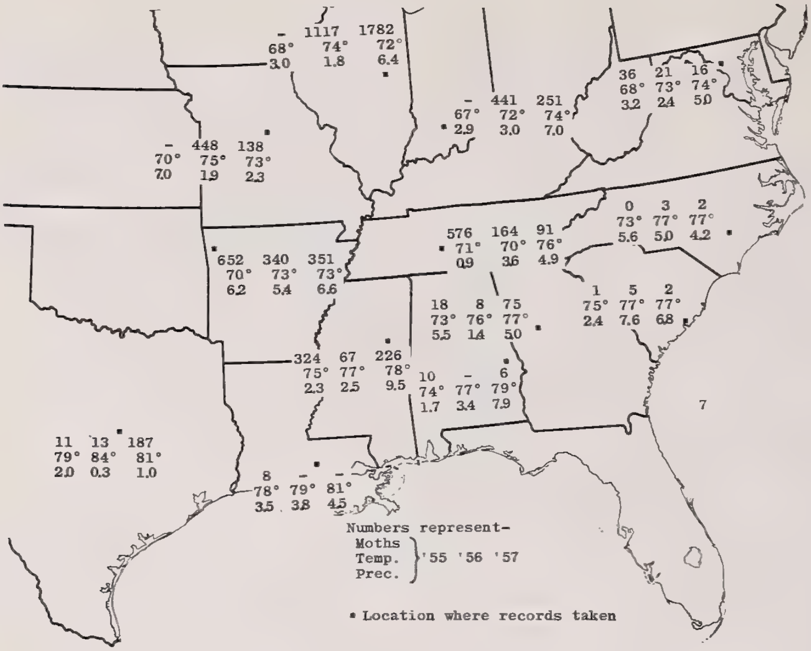
Armyworm Moth Catches, Temperature and Precipitation - May 1955-57



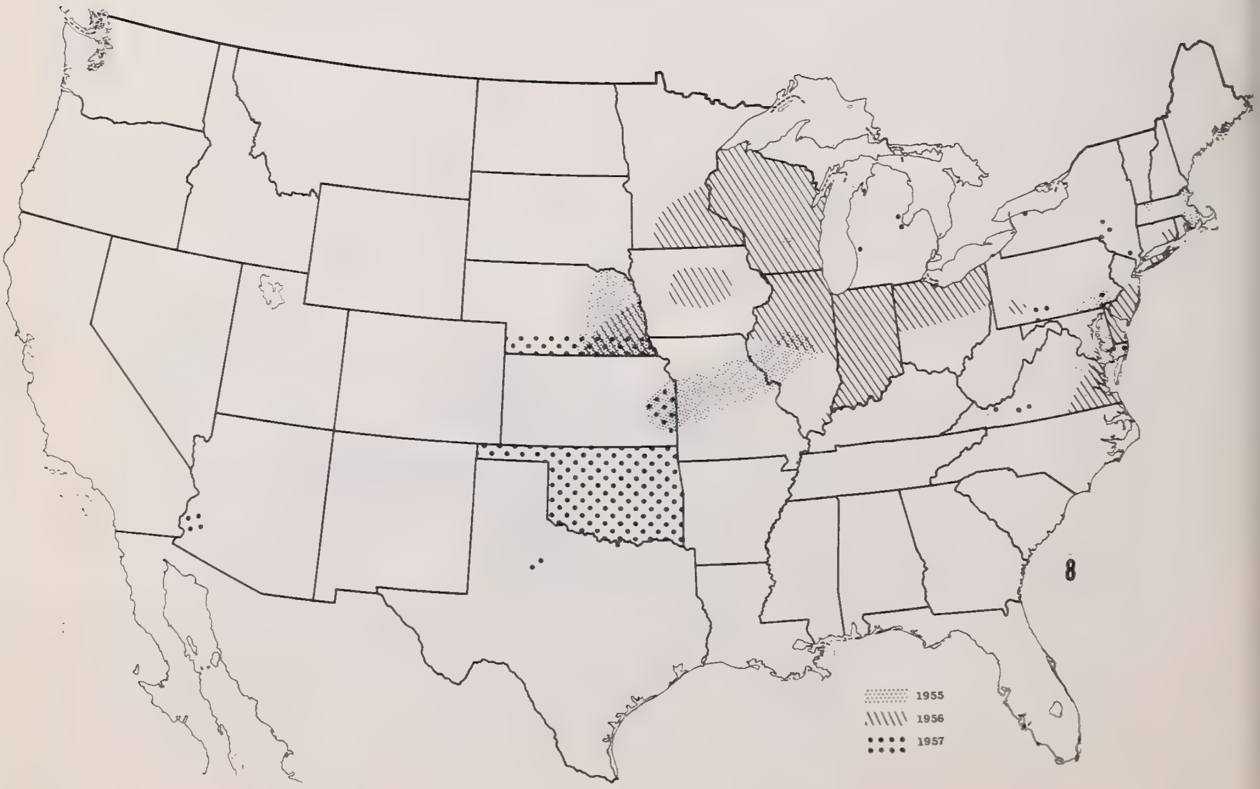
Armyworm Infestations - May 1955-57



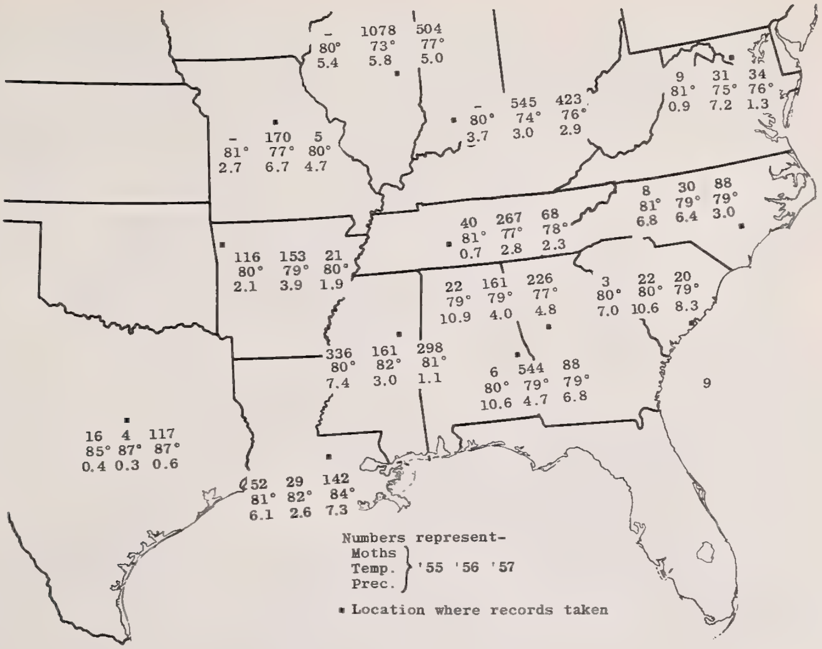
Armyworm Moth Catches, Temperature and Precipitation - June 1955-57



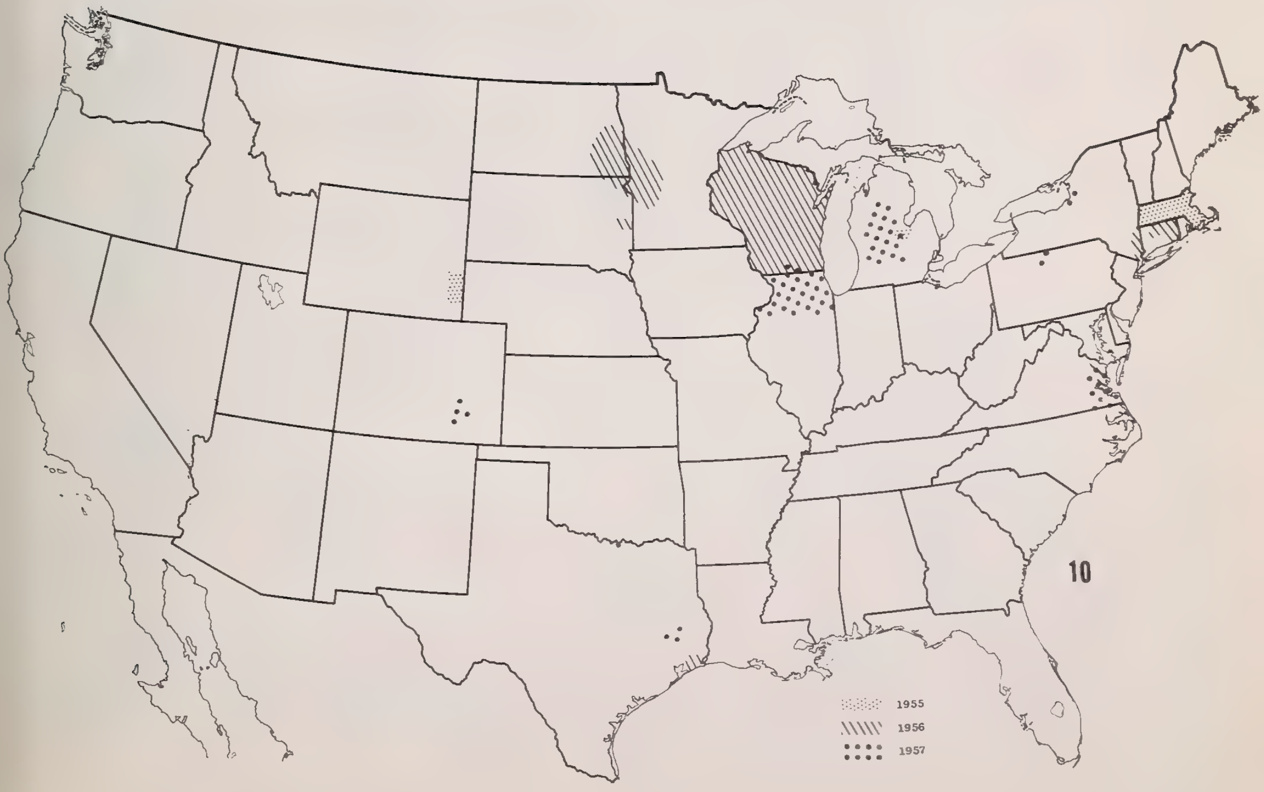
Armyworm Infestations - June 1955-57



Armyworm Moth Catches, Temperature and Precipitation - July 1955-57



Armyworm Infestations - July 1955-57



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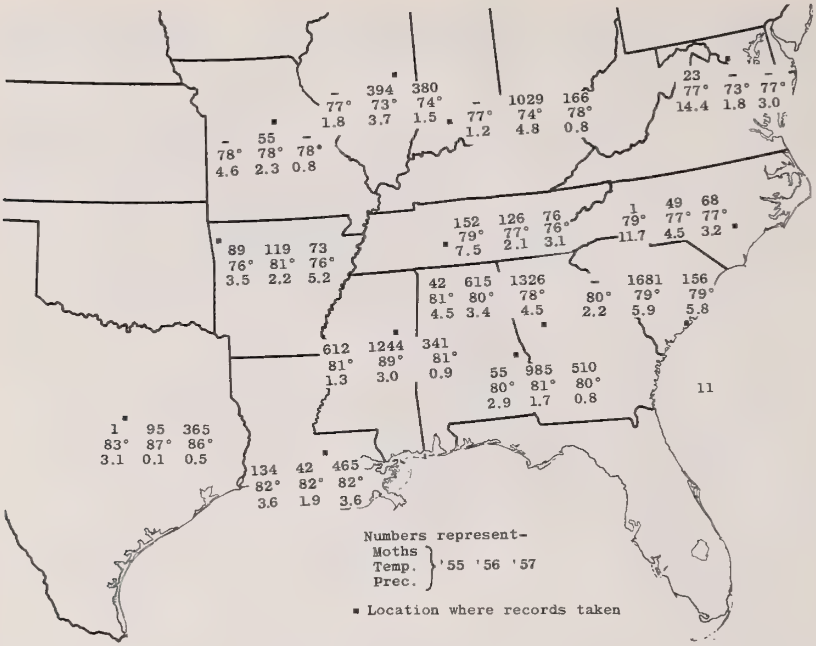
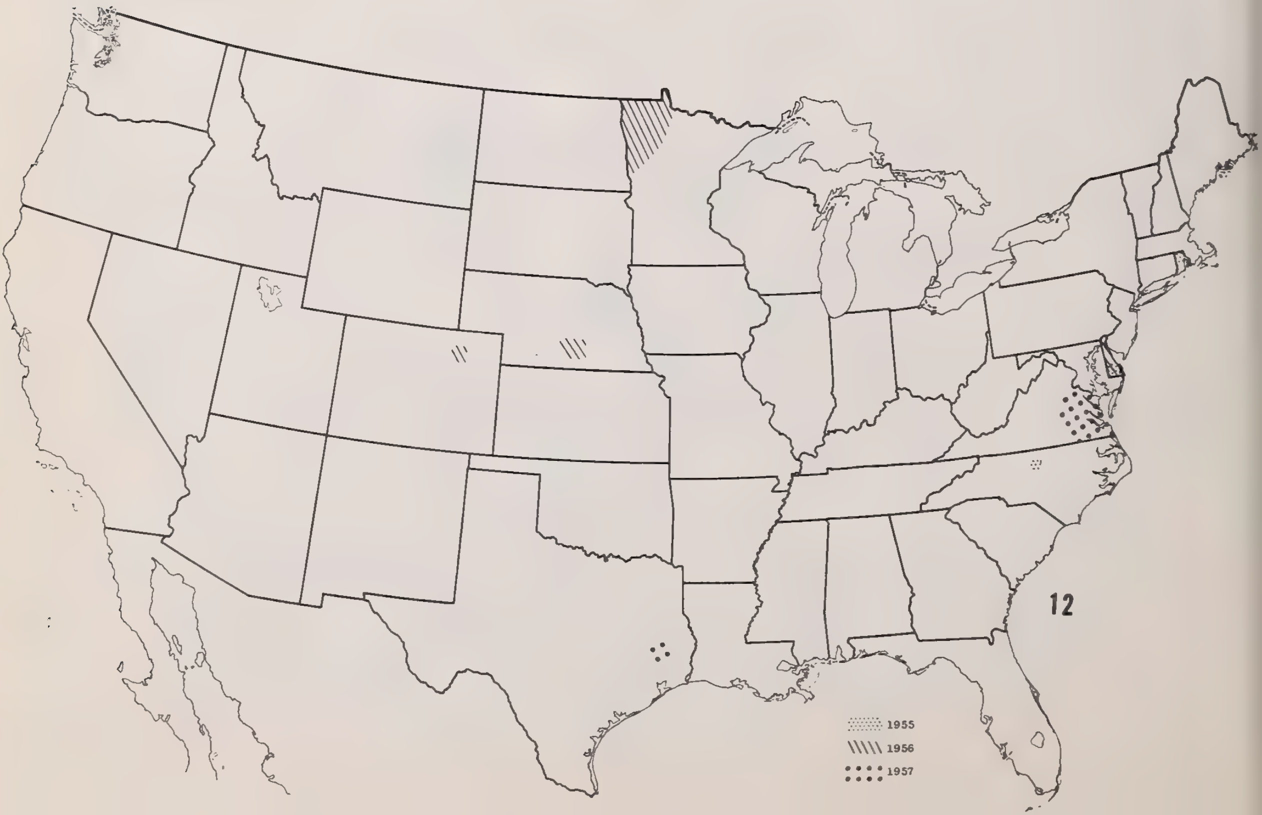
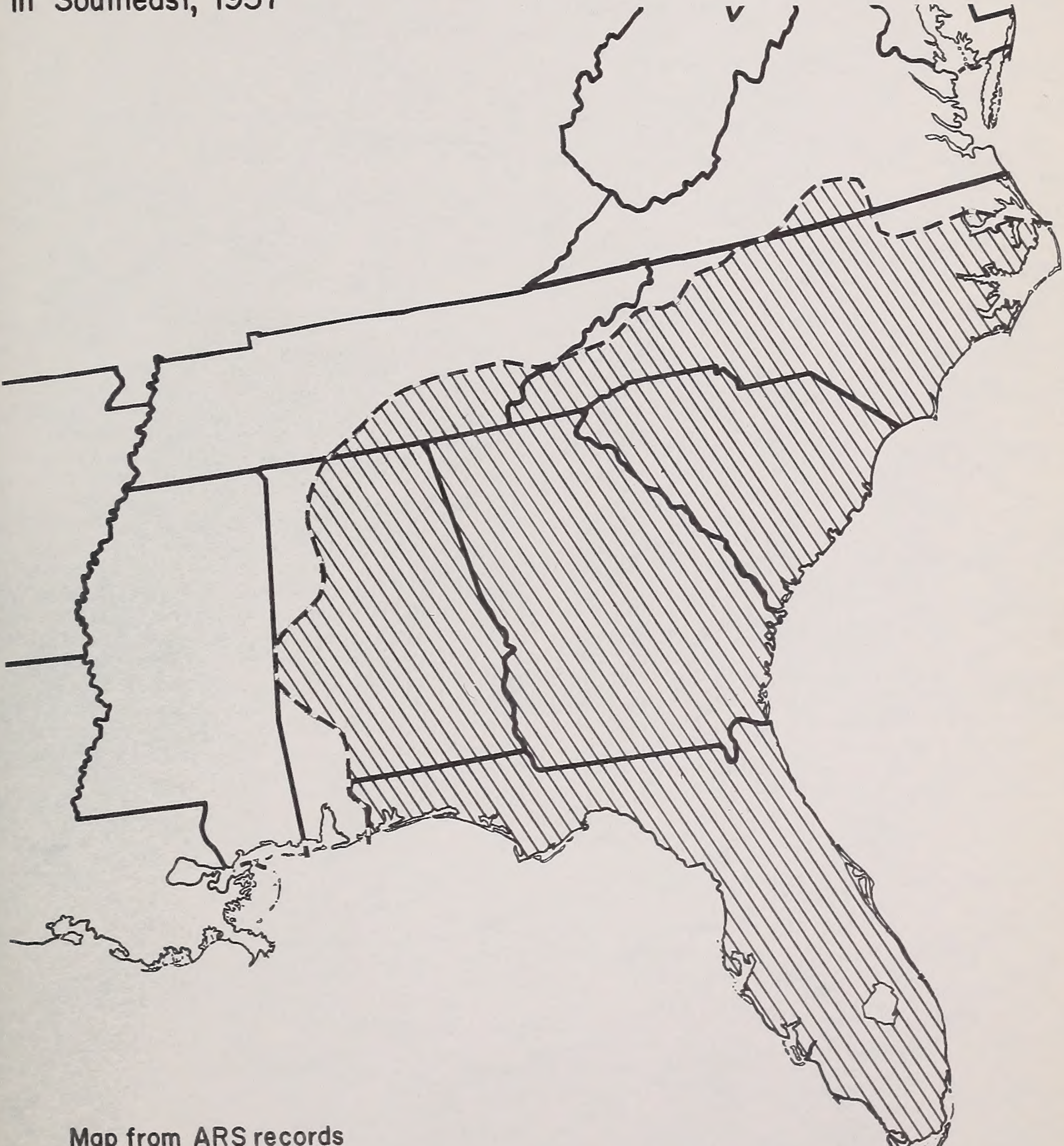
Armyworm Moth Catches, Temperature and Precipitation - August 1955-57



Armyworm Infestations - August 1955-57



Extent of **SCREW-WORM** *(Callitroga hominivorax)* Infestation in Southeast, 1957



Map from ARS records